Lecture Note I-4
Rights Management

- Implications of digitalization technology
- Demand of information good
- Analytics of right management

Intellectual Property Law

- "Intellectual property law cannot be patched, retrofitted, or expanded to contain digitized expression… *Information wants to be free*."

  John Perry Barlow
- Is he right?
- The opportunities offered by digital reproduction far outweigh this problem
  - Like other reproduction technologies in the past, such as printing press, VCR

Production and Distribution

- Digital tech lowers production costs
- Digital tech lowers distribution costs
- Examples
  - Tape recorder lowers production, but not distribution costs
    - Distribution cost is the same as original
  - AM radio broadcast lowers distribution costs, not reproduction costs
    - Quality is reduced
  - Black and white photocopy of an art book ?
    - Quality is reduced

Make Lower Distribution Costs Work for You

- Information is an experience good
- Must give away some of your content in order to sell rest
- Can use product line/versioning
  - Easy to read, hard to print
  - National Academy of Sciences Press
    - Online content can increase the sales of the physical version of information good

Demand for Repeat Views

- Give away all your content, but only once
- Music, books, video have different use patterns
  - Radio broadcast of a song is an ad for itself (versioning)
- Example: Children
  - Barney: free videos
  - Disney: sued day care centers

Demand for Similar Views

- Free samples direct customers back to you
- McAfee Associates
  - John MacAfee posted a virus fix on a BBS and asked those who downloaded it and send him whatever they thought it was worth
  - $5 million in first year
  - $3.2 billion market value by 1997
  - Half of virus protection market
- Similar, but not identical products
  - Variation on the same basic theme
  - E.g. Playboy

Demand for Complementary Products

- Give away index and sell content
  - Wall Street Journal, New York Times, Economist give away index
- Free content, organization/index is what matters
  - Farcast sells "current awareness" to help you search and organize a variety of information sources
  - Two week subscription free trial, 13$ a month

Illicit Copying

- Digital piracy can't be eliminated but it can be kept under control
- Compensating factors
  - Timely information
    - Sports scores, financial information, and gossip
  - Negative feedback for bitlegger
    - The bigger you are, the easier to detect

Historical Examples

- Cheap photocopying has probably increased the demand for printed content
  - E.g. academic journals
- Circulating libraries
  - Books were expensive (a book cost a week's wage)
  - 1800: only 80,000 frequent readers in all of England
  - 1840:1000 libraries
  - 1850: 5 million readers
  - The publishers served new mass market instead of the elite

Historical Examples (cont')

- Video stores
  - 1980: US$1000 for VCR, Video $90 retail, and 60 to video store
  - Video rental as prelude to purchase
    - *"Lady and the tram"* sold 3.2 million copies at $19.95 (Disney)
    - video purchase price drop by more than 90%

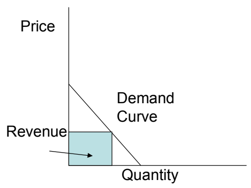
Growing the digital content market

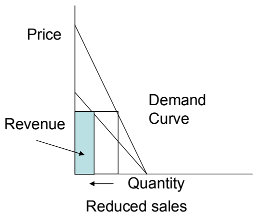
- Key issue: how to exploit economics of scale
  - A:1000 consumers pays a dollar a piece to download a piece of software that costs pennies to produce and distribute
  - B: 100 consumers paying $10 a piece for software that costs $5 to produce and distribute
- Vastly cheaper distribution may feel like a threat, but it offers great opportunity
- Maximize the value of intellectual property, not protection
- Questions: DRM vs P2P

Choosing Terms and Conditions

- Revenue = price x quantity
- More liberal terms and conditions (Less protected)
  - Increases price
  - Decreases quantity sold

The analytics of Rights Management





Simple Model

- Baseline case: max p(y)y
  - *y* = amount sold
  - p(*y*) = demand, assume zero cost
- Make Terms& Conditions more liberal
  - *Y* =amount consumed, *y*=amount sold
  - Original : *Y*=*y*
  - New demand curve P(Y)= α p(Y) with α >1
  - *Y*= β *y* with β >1

Analysis

- New profit maximization problem
  - Max *P*(*Y*) *y*
  - Max α / β p(Y)*Y*
- Conclusion:
  - Y*=y* the same (amount consumed)
  - profits depend on α / β

Transactions Costs

- Transaction cost
  - E.g. cost of travel and delay
- Site license reduce the transaction costs of the seller and the buyer
- Site license v individual licenses?
  - Who can distribute more cheaply?
    - Site licenses are often priced at a low multiple of the software's unit purchase price
  - How effectively can group aggregate value?
    - Redistribute articles within the organization with no liability

Summary

- Two challenges: cheap production, cheap distribution
- Cheap distribution: helps advertise by giving away samples
- Copy protection that imposes costs on users is vulnerable to competitive forces
- Basic tradeoff in terms and conditions: more liberal terms make product more valuable buy may reduce sales
- Site licenses and other group pricing schemes are a valuable tool

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